code changes are properly documented and adequately supported) , and security personnel (such as a security officer who ensures that project initiatives do not compromise confidential data maintained by the organization or its clients, etc.). In the second tier, appropriate authorizing agents may perform a review of the project to

5 assess its financial viability. Cost-related review may be automatic, or may be performed only if there is a significant variation between the cost estimates made in the first principal step and the cost estimates made in the current step. Further, like approval step 106, different finance-related authorizing agents may be used depending on the projected cost of the project.

10 If the authorizing agents approve the project, the process proceeds to the next principal step. If the authorizing agents do not approve the project, then the developers may revise or abandon the project.

C. Third Principal Step

The purpose of the third principal step is to develop the detailed design of the

15 solution (that is, to convert the functional requirements generated by the previous steps into technical requirements). Another purpose of this principal step is to ensure that proper design methods are utilized, to detect and eliminate design flaws, and to ensure acceptance of the solution by providing servicing (that is, by providing appropriate support for IT solution development) .

20 The party responsible for performing the third principal step may comprise an appropriate IT project manager. The third principal step may receive inputs (e.g., information) from any appropriate IT or business-related subject matter expert.

The third principal step may specifically include seven substeps. The first (1) substep involves finalizing business and system requirements. For large projects, this

25 substep may entail refining the projects plans. For smaller projects, this substep may simply involve revalidating the project plans (e.g., providing a second review of the project plans).

The second (2) substep involves developing various standards, such as development, user and system interface standards. For instance, a development

30 standard may pertain to naming conventions used in the coding of the IT product. A user interface standard may pertain to conventions used to govern the visual layout

and functionality of the IT product's user interface. System standards may pertain to conventions used to govern the interaction between the IT product and other products and systems.

The third (3) substep involves designing the logical system. This step entails establishing protocols defining the logical functionality of the IT solution. The logical functionality of the IT solution defines the operations performed by various modules and submodules used in the IT solution.

The fourth (4) substep involves designing the solution. The fourth substep may specifically entail defining business rules and logic that will govern the IT solution. The fourth substep also may involve defining data-related features of the product, such as the data model, data sources, data interfaces, data transactions, data conversion and data dictionary used by the product. (A data dictionary identifies the data fields used in an application.) The fourth substep may also entail defining the system architecture of the IT product. Additionally, the fourth substep may involve defining external system changes required by the IT solution (e.g., pertaining to changes in other interconnected systems that need to be made to accommodate the IT solution). The fourth substep may also involve designing various system functions and modules. The fourth substep may further entail defining a general installation strategy. A component of the general installation strategy is the "desktop strategy." This refers to the strategy used to modify the users' equipment (e.g., personal computers) so that the equipment will be compatible with the IT solution. In extreme cases, this strategy may dictate that the users are supplied with new equipment (e.g., having faster processors).

The fifth (5) substep involves creating the technical specifications for the project.

The sixth (6) substep involves defining the application processes. This step may include: (a) defining the application processes (e.g., the functional processes of the IT solution); (b) defining the data flow used in the IT solution; (c) identifying application users that are affected by the IT solution; and (d) defining supporting programs and scheduling needs.

The seventh (7) substep involves developing a testing and training plan. The

testing component of this substep may involve: (a) developing test plans and scripts; (b) identifying the testing teams; and (c) establishing a commitment from the testing teams. The training component of this step involves: (a) identifying users and their locations; (b) identifying the type of training that will be provided to the users; (c) defining training materials; and (d) defining training delivery strategies.

The eighth (8) substep involves developing a conversion plan. The conversion plan defines a strategy for transitioning from a prior system to the IT solution.

The ninth (9) substep involves defining "after-implementation" processes. These processes define actions taken subsequent to the implementation phase (i.e., the sixth principal step) to ensure the stability of the IT solution.

The tenth (10) substep involves updating the cost-benefit analysis and project schedule based on additional information that has been obtained since previous cost-benefit analyses.

Other processes (not listed in FIG. 1) may include creating an application retirement plan. This plan defines a strategy for retiring a system or service previously used by the organization. An exemplary task in a retirement strategy may consist of ensuring that the data maintained by the "old" system is transferred to the "new" system, or at least maintained in such a state that it can be accessed by the new system. Another task in the retirement strategy may consist of ensuring that licensing issues have been resolved so that the organization will not be charged for systems and software it no longer uses.

Another substep not identified in FIG. 1 may consist of defining help desk processes (e.g., processes used by support personnel to assist users in their use of the IT product). Another substep not identified in FIG. 1 may consist of developing an organization "change strategy." This change strategy refers to a plan for installing the IT product's code (which involves ensuring that the correct version of the code is installed).

The output of the third principal step includes one or more of the following deliverables: (1) business and technical requirements; (2) system user and interface standards; (3) data model; (4) logical data model; (5) technical specification; (6) test strategy plan and scripts; (7) conversion plan; (8) retirement plan; (9) detailed training